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OHIO CULTIVATOR.

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EDITOR AND PROPRIETOR.

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An Improved Horse Rake.

The spiral wire-tooth horse rake, is an implement we have frequently seen exhibited and in use in New York, and it is there highly approved as a cheap, durable and efficient labor-saving implement. We were not aware that it had been introduced into Ohio, until a day or two since, when Mr. R. J. Humes, of Zanesville, informed us that he had procured the agency for the State, and had already disposed of the right for more than half of the counties, including all the northern portion. He has one of the rakes for exhibition; and we think it cannot fail to commend itself to every farmer who examines it. From what we know of these rakes, we doubt not they will speedily come into general use. Mr. Hume has still rights to dispose of for central and southern counties. The inventor and patentee is—Haynes, of New England.

Judd's Centrifugal Windmill.—In reference to this invention, which was noticed in our last, we are requested to state, that Mr. J. H. Smith, the owner of the patent for Ohio, may be addressed at Cleveland for the present, by those wishing information by letter; also, that the mills are now being erected in Cleveland, Wooster and Newark, at which places they may be seen, in a short time, in actual use.

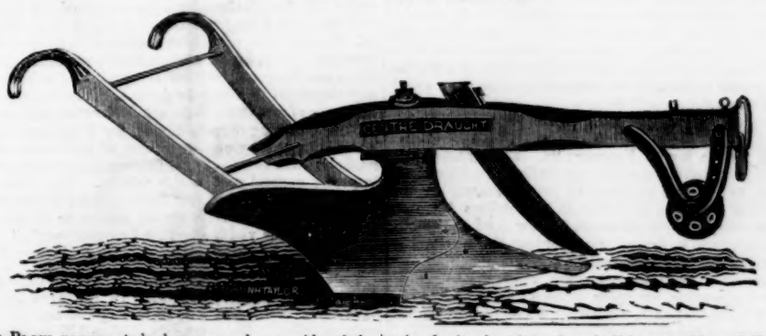
Important to Millers and others.—Mr. James M. Clark, of Cincinnati, has shown us a model and certificates of the performance of his "*Smut, Screening and Fanning Machine*" for cleaning grain from all impurities, such as smut, cheat, cockle, white caps, &c., for the use of millers; also his improved fanning and screening mill for farmers—both of which are constructed upon what we believe to be an improved plan, and worthy the attention of farmers, millwrights and mechanics. A large number of the machines have been put up in mills in Pennsylvania and in Ohio, where they have superceded and greatly excelled the most approved machines for cleansing grain formerly in use—as is shown by highly respectable certificates in the possession of Mr. Clark.

The machines are manufactured at the machine shop of Bevan, Scott & Co., Cincinnati, Ohio. Mr. Clark is now in this city, at the Buckeye House, where he will remain for the sale of rights or machines, till the 20th instant, after which time he will be at the Kenyon House, in Mt. Vernon, for one week.

Water in freezing expands by nearly one seventeenth of its volume. It also expands while cooling in a liquid state from 39.39 deg. F. to 32 deg.

To soften and remove Putty.—Take a little nitric or muriatic acid, or a little strong vinegar, and spread over the putty, and it will soon become soft.

New England Centre-draught Plow.



The Plow represented above, may be considered the most approved pattern of the eastern States. The engraving is taken from those made by Messrs. Prouty and Mears of Massachusetts, and called by them the Centre Draught plow. This name is applied on account of its being so constructed that the *line of draught* from the team is on a direct line with the centre of resistance of the plow, and hence when working in ground free from stones or other disturbing materials it will turn a uniform furrow, from one end of the field to the other, without any holding by the plowman. This has often been done at plowing matches and on other occasions, and numerous prizes have been won with it. It also performs the work in a superior manner, challenging comparison with any other kind of plow, and for lightness of draught, we believe it is not excelled by any of the same capacity of execution. The weight of these plows is from 95 to 120 pounds, according to size. The price with wheel and coulter, $10 to $12, at the warehouses in New York or Boston.

Other eastern plows, of approved manufacture, do not differ essentially from the foregoing. The best forms of Ohio plows, it will be also found, closely resemble them. We shall say more on this subject at another time.

A Draining Plow.

Mr. Bateham—In the Cultivator of the 15th instant (Jan.) you ask, "What ingenious mechanic, in Ohio, will get up the best draining plow, for the improvement of the thousands of acres of wet prairie lands in our own State?" Well satisfied that every lot of tilled land that will show water on the surface two hours after the heaviest rains should be first drained, and then plowed with a subsoil plow; and as well convinced that western farmers will not ditch with any thing, save animals or steam power, I set about devising a mode to suit the people and this age of steam and electricity. The motive power is less speedy than electricity, and, consequently, not so liable to "split a yoke" or "break a trace."

Here is a rough sketch that will enable you to guess at my plan of a trench plow.*

I propose that it shall all be of wrought or cast iron, except the beam and the handles; that it be so constructed that the beam can be raised as the ditch deepens, say 6 to 8 inches each time; that the wing, or mould, of the plow shall stand at right angles with the furrow, inclining backward at an angle of 22 to 30 degrees, and capable of raising the dirt 2½ to 3 feet. In this plate I propose to cut holes capable of receiving small bolts so as to bolt on a "mould-board" at such height as shall cast off the dirt of each furrow on arriving at the surface. Thus fixed, first take your large fallow plow and turn off the sward 8 inches deep and 15 to 18 inches wide; then return with the trench plow 8 to 10 inches deeper—set your mould higher and return. (The "off side" of your plow will guide the "near, or land side" so as to make the ditch just the width of the mould-board.) So proceed until you have reached the desired depth of, say 30 to 36 inches. In ordinary wet land, free from roots and rock, four yoke of cattle or six horses will cut a ditch 15 to 18 inches wide, and 30 inches deep, in two or three furrows after the fallow plow has turned the first furrow. Such is the "wind work!" Why will it not work in practice? Who will pay for such a plow? I will build one and insure it to work, if any one will give a liberal price for it when its value shall be tested by a full trial.

A Mechanic.

Clermont Co., Feb., 1847.

**Remarks.*—We omit making an engraving of our friend's proposed draining plow; as from his imperfect sketch we cannot fully perceive how he designs to construct it, so as to secure sufficient *strength* and give the requisite form to the mould-board. His general plan, we think is a good one, and evinces sufficient mechanical skill for the construction of a plow that will fully answer the purpose contemplated. We should be glad if he would make an estimate of the *cost* of such an implement, and allow us to give his name, with a definite proposition to manufacture. We think persons can be found, willing to pay a fair price for the article, with the guarantee that he offers to give. It is more than probable, however, that one or two of the plows would have to be made and tested before the best form could be ascertained.—Ed. O. Cult.

"First Annual Report of the Ohio State Board of Agriculture,"

Made to the Forty-fifth General Assembly of the State of Ohio, in pursuance of an 'act for the encouragement of Agriculture,' passed Feb. 27, 1846.

As a considerable portion of our readers may not have an opportunity of perusing this document, we will give an abstract of its contents, with a few brief extracts.

The first 13 pages of the work consist of general remarks by the president, Allen Trimble, on the agricultural character of the different sections of the State, its progress in improvements and population, &c., together with some allusions to the labors and wants of the State Board of Agriculture, and suggestions for the consideration of the Legislature. From this part we extract the following:

"It will be seen, by reference to the reports of the County Agricultural Societies, that the spirit of improvement has been revived in a number of the counties, where such societies have been formed, and that much benefit is expected to result to the farming interest from their future operations." * * * *

"The members who have attended the meeting of the agricultural board, have manifested not only a willingness, but an earnest desire to carry out, as far as in their power, the objects of the law of 1845; but, as may be seen by the reported proceedings, the sentiment was expressed, at the meetings in October and December, that however much the members then present desired the organization of the Board to be kept up, it ought not to be expected that they could continue to give their time and attention to this object, and incur the expense of such attendance in future, without some compensation; and it was doubted whether others would be found more patriotic than themselves. It was therefore ordered, at the December meeting, that the resolution then adopted, asking the General Assembly to appropriate five hundred dollars for the use of the Board, be laid before your honorable body. The Board, or a majority of them, felt reluctant to urge, at this time, when the resources of the State are all needed to meet her engagements, the appropriation of a dollar by the State—but concluded, in view of the importance of continuing the effort but begun in

Ohio to advance her greatest interest, to ask for the sum named, as a means of defraying the necessary expenses of the Board.

"The General Assembly must be aware that it would require a much larger sum than could at present be obtained from the treasury, to effect any valuable purpose for the promotion of agricultural improvement; and that, unless some plan can be devised to create a fund adequate to the great object contemplated by the law, the whole plan, except so far as county societies are concerned, must fail.

"In order, therefore, to create and secure a fund, to be distributed for the promotion of agriculture, in any manner that the wisdom of your honorable body may devise, and without diverting from any proper object the revenues of the State, as already appropriated—and without imposing any tax upon any new interest of any class of the people unusual in its character, and against which any just complaint could be urged—I would suggest that a permanent agricultural fund should be created, as follows:

"1st. By the law of February 28, 1831, entitled "an act to regulate public shows," the auditor of each county is authorized to give a permit to the exhibitors, on the payment of any sum from two to fifty dollars for each place, in every county where such show may be exhibited. In practice, so far as I am informed, the auditors in the counties generally assess the minimum amount; and many public exhibitions, not much conducive to public morals or education, are made without any permit at all, on the ground that such exhibition is not comprehended in the terms of the above act.

"Certainly the minimum amount, for which the auditors are authorized to grant permits, might be increased to twenty dollars; and other exhibitions might be included in an amended act, now supposed to be free; and this increase on the minimum amount for the permit, and one-half of what may be collected from exhibitions heretofore not paying at all, might be appropriated in aid of an agricultural fund, without injury to any public interest.

"2d. By the statute of descents lands and personal property escheat to the State in the event a deceased person has no heirs surviving; and by an act passed February 25, 1833, concerning escheated lands, the courts of common pleas of each county are authorized to appoint some person to manage and lease out such escheated land.

"It is believed that escheated lands and personal property might be appropriated to the agricultural fund, without any loss to the present revenues of the State; and that by appropriating such lands and property to such purpose, and making it the duty of some county officer to watch and report all escheats, under the direction of each county agricultural society, such vigilance would be secured as to warrant the belief that a considerable amount might be realized by the sale of escheated property, which is now lost to the State for want of special investigation."

[In accordance with these suggestions of the president, it will be seen, by a notice of the doings of the Legislature, in another column, that a law has been passed "to create a permanent agricultural fund" for the use of the State Board.—Ed.]

The next 7 pages contain the transactions of the Board for the past year—the rules adopted for the guidance of county societies, &c. This has all appeared in the Cultivator during the year.

Reports from Counties, occupy the next 50 pages; embracing condensed abstracts of the reports of county agricultural societies, and valuable intelligence in relation to counties where no societies exist, written in answer to the circular of the Board. The whole number of counties embraced in the report is 51; of these 23 have organized county societies; namely, Ashtabula, Clark, Columbiana, Crawford, Fayette, Gallia, Geauga, Greene, Guernsey, Hamilton, Harrison, Highland, Huron, Lake, Lorain, Madison, Medina, Miami, Montgomery, Portage, Ross, Trumbull, Washington. Six others mention the existence of township Farmers' Clubs within their limits; namely, Belmont, Clermont, Knox, Lawrence, Licking, Muskingum.

We glean the following items of general interest from the reports of counties:

Need of Statistics.—"I have no reliable information or statistics of the aggregate amount of any staple products, sold or produced in the county, [Champaign.] And here I would suggest to your Board that some legislative enactment should be sought, whereby the aggregate amount of the leading agricultural products of the State may be hereafter ascertained, with some approach to accuracy. I deem this a matter of some importance, and the more so, as but little confidence can be put in the accuracy of the reports of our agricultural statistics, as reported by the Commissioner of Patents; not but that officer has done all in his power to make them correct, but from the manner in which they have necessarily been made up, they cannot be relied on. Our State credit, firm as it now stands, would doubtless receive additional support from a full and accurate statement of agricultural statistics. * * * *

"Hussey's Reaping Machine, worked by horse power, was introduced in this county during the past harvest, and some two or three hundred acres of wheat cut with it. It cuts the grain without waste, and leaves a short even stubble. It employs nine men and four horses to work it, and cuts upon an average 12 or 15 acres per day. The man who sits on the machine, to pass the grain off the platform, works very hard, and to great disadvantage, from the position in which he is obliged to sit. Machines are now being made in Urbana, our county town, to order, by a machinist who promises to make them that they will pass off the grain to the binders for any size sheaf that may be desired, thus superseding the necessity of a man on the machine for that purpose. Improved thrashing machines, whereby the grain is thrashed and cleaned by one operation, at the same cost per bushel as was formerly paid for thrashing alone, are now in pretty general use in this county. The wheat-drill was used by several of our farmers last fall, for the first time. The great advantage of this mode of seeding is said to be in the yield, of which I cannot speak."

[*By S. Keener, Esq.*]

Things in Clermont County.—"I have no information derived frem reliable sources. In the corn trade, we have seven distilleries (!!!) in this age of temperance—making daily, in the aggregate, 150 to 175 barrels, of 40 gallons each, of whiskey. Two distilleries in my vicinity have taken in about 100,000 bushels—and "*still* they come." From this data I compute that this year's crop will furnish distillers alone, 400,000 bushels of corn.

* * * * * *

"There is a gradual progression in the upward tendency of agriculture in the county. We have a fair prospect for a respectable farmers' library. Agricultural chemistry is being studied by a few already, as well as geology and mineralogy, whilst few could tell you the *name* of the "latest novel"—so far good; still, we are most of us on that old *"tread-wheel"*—that interminable circle which our ancestors have tread for the last thousand years—and too many planting and sowing by "the signs," and *"right time in the moon."* Farmers are getting rich here from nature's bounties. We have the *same geological formation,* and nearly as good a climate as the famed Palestine of the old world. Shall ignorance, bad tillage, and bad government of a first luxurious, then vicious, ignorant, and degenerate race make this, as that, a desert waste!

Now is the time for the philanthropist and statesmen to fix the standard of worth high in the intellectual and moral temple of fame; to fix the taste and elevate this first, greatest, and noblest of all pursuits, and he has the proud satisfaction of starting his race onward and upward to that high destiny in reservation for yet purer and nobler intelligencies. How shall ignorance be driven out, superstition dethroned, listlessness aroused, lethargy thrown off, and the *man* be aroused to be what he is, *a thinking, active, superior intelligence,* rather than a plodding drone.—[*By President of Farmers' Club.*

Products of Geauga county.—"The society estimate the principal farm products of Geauga county for the past year as follows: of wheat, 90,000 bushels; average yield, 20 bushels per acre; price, (in Cleveland market) 75 cents per bushel. Corn, 95,000 bushels; average yield, 40 bushels per acre; price, 30 cents per bushel. Oats, 75,000 bushels; price 15 cents per bushel. Flaxseed, 500 bushels; price 62½ cents per bushel. Oil of peppermint, 1,500 pounds; value in New York, $1 25 per pound. Products of the dairy, value $6,000. Wool, beef cattle, &c., not estimated."

Farmers' College, Hamilton County.—"As a ground of future hope of agricultural improvement, we are happy to refer to the fact that there is now being completed, at Carey's Academy, at Pleasant Hill, six miles from Cincinnati, on the Mount Pleasant turnpike, a splendid building, with the title of "Farmers' College of Hamilton county," as a foundation of a system of education suited to the wants of the sons of farmers generally. The funds are raised by stock subscription of shares of $30 each. Though not a part of this society's operations, yet, the society feel a deep interest in the scheme, and individuals of the society are aiding in the work."

Need of Education:—"The public mind of Highland county is not prepared for an earnest, zealous, energetic system of efforts to improve her agriculture. One suggestion naturally arises out of this fact. The great object which the friends of agriculture desire to attain, cannot be effectually compassed until means adequate to the end shall have been employed to produce it. n vain shall you address the man of grey hairs, who, having always ploughed *so,* has yet harvested wheat, and who, having never manured, has yet gathered corn. But place his son and daughter in the district school, under a teacher of ordinary intelligence, who, having studied, shall teach, among other things, a suitable course of rural economy and agricultural science—to them, thus trained, rational experiment and accumulations of knowledge in agriculture will become a necessity, and intercommunication of results and opinions a delight. To the popular education, then, let the energies of good men be directed. The district school system of Ohio is perishing by the most cruel neglect. It were capable of all that is elevating and excellent, were it made to improve with the growth of the people in numbers and wealth. But it stands, while all else advances; and the youth crying for bread, receive a stone! Vast and illimitable are the sources of national greatness lying ready to be evolved in the untried depths of the juvenile mind. To this level must statesmen sink their shafts, before the clear waters of general intelligence will gush abundantly."--[*By President of Ag. Society,*

Worthy of imitation:—The president of the Miami county society says: "The society being organized at so late a period, it was deemed inexpedient to have an exhibition for awarding premiums the present year. This resolution was made in view of the chief benefits sought to be attained by the organization of agricultural societies. These advantages are to be found, not so much in the production of extraordiny results, as in the establishment or discovery of means and process by which a given result may be attained with the least amount of expenditure, whether it be of labor or of capital. Skill and intelligence are to be encouraged, rather than a blind reliance upon chance and the operations of nature, without those aids which she requires at the hands of man, if he would enjoy those bounties which she is capable of bestowing. In short, we believe the premium should be awarded to the man, rather than the bullock or the porker brought for exhibition. The society have appropriated the sum of one hundred dollars for the purchase of books to form the commencement of an agricultural society. The funds in the treasury, including appropriations, amount to $200."

Beef and Pork region.—(*Pickaway county.*) "There are about 7, 00 head of beef cattle now being fattened in the county, and about 20, 00 hogs were fed this season.

Our wheat, corn and pork, is mostly marketed at Circleville; the greater part of the wheat is there manufactured into flour. The corn is shipped north by the canal, but much the greater part of this article is fed to cattle and hogs on the farms. The cattle are driven to Baltimore, Philadelphia and New York, for the immediate use of the butchers. Wheat, the present fall, has been worth about 5 cents per bushel, corn 12½ to 15 cents, pork $2 to $2 50 per 100 lbs; beef cattle last spring sold for $4 5 per 10 lbs.

There has been no particular improvement introduced in farming, to my knowledge, within 2 or 3 years, excepting it be in the breed of cattle, of which we have a large number of the finest Durhams; and that breed is increasing in repute among feeders and buyers. It may also be stated, that from experiment, it has been found that seed corn obtained from Kentucky is much more productive than that raised here, and seed wheat brought from the north is also better."—[*By S. G. Renick, Esq.*

Immense products of corn.—"From statistics gathered with much care, by the Ross county Agricultural Society the past fall, the following facts are given with reference to two townships of that county.—The whole amount of the corn crop of Liberty township, is 193,-704 bushels from 3,997 acres, making an average of 48 bushels 2 pecks per acre. The whole amount of wheat is 9,668 bushels from 965 acres, averaging 10 bushels per acre. The whole amount of oats is 14,953 bushels from 935 acres, averaging 23 bushels and 2 pecks per acre. Best lot of corn in township is 40 acres, rated at 90 bushels per acre. Best lot of wheat in 10 acres, rated at 20 bushels per acre. Best lot of oats is 5 acres, rated at 40 bushels per acre. The following aggregate statement is taken from the report of Scioto township. The produce of this township (for 1846) was 359,335 bushels of corn. The whole amount of wheat is 13,237 bushels. The whole amout of oats is 9,741 bushels."

Improvements in Summit county.—"There is no agricultural society nor a farmers' club existing in the county; which would argue no improvement in agriculture. Notwithstanding this inexcusable neglect, I believe there is a gradual improvement in most branches of agriculture. It is perceptible in all kinds of stock. We have better horses, oxen. cows, sheep and swine than formerly, though the improvement in "three years" can scarcely be marked. Several public spirited and enterprising individuals are engaged in growing fine wool for the eastern market at remunerating prices. They have introduced among us some fine Saxon and Merino sheep, which, together with the example, has had a d will continue to have its effect in improving the breed of sheep generally in our county. There is also a decided improvement in the variety and quality of fruit brought to this market. For two or three years past our apples have rotted considerably, and this year very badly, so much so that it is feared that but little can be kept through the winter. The cause or causes of this rotting would be a very interesting subject of inquiry. I have heard it suggested that it may be owing to injury of the fruit buds by the cold of our winters; others attribute it to the dryness of

our summers. Apples have also of late been badly infected with worms."—[*By H. Bowen.*]

Washington county.—"I am not aware of much decided improvement among us, but there are encouraging tendencies. Some attention to the improvement of stock, but room for much more. Our German emigrants, by their more thorough and assiduous culture of lands lately despised, have by example done us good service. Deep and autumn ploughing, and the use of the side-hill plough are occasionally symptoms of improvement. I am not prepared to class our exports. Indian corn, that most valuable plant that Heaven has given to man, is of course our most valuable product, and I am happy to say, I know not the existence of a single distillery in this county, for its most mischievous perversion. The attendance at our last fair was large and enthusiastic, and its exhibitions very encouraging."

The law for the encouragement of Agriculture, passed last winter, is appended to the report for convenient reference.

Mustard Culture--Imposition Exposed.

Mr. Bateham:—It is well known that there has been considerable excitement among farmers in some parts of this State, for a year or two past, in reference to the culture of Brown Mustard; so much so indeed that many who engaged in the business the past season were disappointed in the results. Now what I want to caution the farmers against, is this: There is a man residing, I believe near Marietta, who is trying to take advantage of the excitement alluded to, in this way: He has got up a very small pamphlet, containing about as much reading matter as half of one number of your Cultivator, and giving about as much information on the culture of mustard, as could be found in your paper the past year—this, with about half a pint of mustard seed, he is selling through agents at the modest sum of one dollar and a half, or there abouts. Now sir, I do not like to see the public so imposed on as to pay as much for about five cents worth of matter, as would procure them the Ohio Cultivator for two years. If the man would distribute his books and papers of seed at a fair price, there would be no occasion for complaint. I do not write from any motives of ill will towards the man, but simply to prevent people from being *gulled*. If farmers wish information respecting mustard, they will find it in the past volume of the Cultivator in a less exagerated style than in this pamphlet; and the half pint of seed can be obtained of the druggists for a few coppers.

A Reader.

Gratiot, Licking Co., Feb. 1847.

Remarks.—We think our correspondent has done well to expose the imposition spoken of, though we do not suppose this notice will reach the eyes of many of those most liable to be thus imposed upon, as *they are not the readers of the Cultivator.*

In regard to the results of last year's crop of Ohio mustard seed, it may be remarked that the price of the seed in the fall was too low to afford a fair profit to the producers, except such as obtained a pretty large yield: only netting in this State about 4½ to 5 cents per pound, or $2 to 2 50 per bushel. This decline of price was not owing to the increased production, so much as to the change in our National tariff by which foreign seeds are imported free of duty. Hence no blame whatever can justly be attributed to the dealers, or manufacturers, nor to those who had been instrumental in diffusing information respecting the culture and profits of the crop. We do not believe that any persons have suffered actual loss thereby, excepting those who failed in obtaining a crop; and we are still of the opinion that those who possess suitable land, and *understand the business*, may realize a fair profit from mustard culture at the present prices of seed. Though we would by no means recommend persons unacquainted with the business to engage in it as a speculation.—Ed.

Subsoil Plowing--Bottom Lands.

Mr. Bateham:—Is it a fact, as I heard stated at Columbus, that subsoil plowing does no manner of good to our alluvial bottom lands? If so, it should be generally known; and the sooner the better. Several of my neighbors contemplate purchasing subsoil plows for that description of lands. I may have committed an error in recommending the practice. I never used the subsoil plow; but from the results of very deep plowing, experiments, and observations, I had come to the conclusion that it would be beneficial on almost every description of soils, provided the land is not too wet.

It is very evident that the pressure of the plow, running at a uniform depth, for many years, forms a hard stratum, almost impervious to water, and impenetrable to the roots of plants. When breaking a clover ley a short time since, the ground wet and loamy, with water standing on numerous portions, shortly after heavy, protracted rains, I found the earth quite hard and dry at the depth of 7 to 9 inches, or just below where the plow usually ran.

A neighbor, who pays but little attention to agricultural science, on renting a farm adjoining me, complained that the ground was so hard, at a depth of 4 or 5 inches, that he could not plow below that depth without going entirely beneath that hard stratum, the former being too shallow, and the latter too hard on his team. I explained the difficulty; the original proprietor had skinned about 3 or 4 inches deep for some 25 years, forming a complete hard-pan.

Mr. J. Buffington, an extensive farmer, and quite an observing man, tells me that when using the bull-tongue for a make-shift subsoil plow, he had to put a heavy weight on the plow to make it penetrate the hard stratum below the furrow of the large plow. His land, as you know, is an niluvial deposit, abounding in vegetable matter, rich loam, and sand—one of the deepest and richest alluvion soils on the Ohio river. The result of his experiment with the bull-tongue was favorable, giving a better yield than the balance of the field, where the large plow only was used.

When preparing a piece of pond land for a premium corn crop, a few years ago, I had occasion to fill up a temporary ditch that had been made the year previous, and it so happened that a row of co n was planted directly over the ditch, which gave it a decided advantage over any other row in the field—the entire product being at the rate of 17 bushels per acre—soil 18 inches deep, rich muck, or vegetable deposit—clay subsoil.

The Reverend James Kelley, of this county, when digging a well, hauled sand from near the bottom, and filled up an old well that had been partially dug in his field by the original proprietor, after which he plowed the field, and planted corn. The hills of corn planted in the pure sand, or nearly so, and directly over the old well, gave an extraordinary yield, producing ears 22 inches in length, at least 6 inches longer than I ever saw, and 4 longer than I ever heard or read of. Query.—Was this extraordinary result caused by some mineral or other nutritive qualities contained in that sand that came from many feet below the surface, or was it the action of the rains and atmosphere, dissolving and rendering the sand soluble, that it could be readily taken up by plants; or did the unusual depth of loose earth induce the roots of the corn to extend down to such a depth as to afford a constant and uniform supply of food and moisture, even temperature, and a great variety of dainties to feast upon?

Do not these results, after making liberal allowance for the fact that similar causes produce different effects under different circumstances, indicate that subsoiling will te beneficial even to our bottom lands, Mr. Thomas to the contrary, notwithstanding?

H. N. GILLET.

Quaker Bottom, Lawrence Co. O., 1847.

Sweeny in Horses--Horse "Jockeys."

Mr. Bateham—On mentioning to Mr. Deming, (who is one of my neighbors of undoubted veracity, and an old settler from Conn.) the cures for sweeny prescribed by Dr. Felix, of Pittsburgh, and one or two other correspondents, in the last volume of the Cultivator, he gave me another remedy quite as simple as either of those and which he applied to practice several years ago with the best success.

His mode is this: lift the skin from the centre of the wasted part of the shoulder with the thumb and forefinger, in which make an incision with a sharp pointed knife sufficiently large to permit you to thrust in your forefinger, and having passed your finger around in every direction between the skin and wasted flesh; then lifting up the skin as before, insert a goose quill, fill the space with air thus torn loose from the flesh, and with the help of an assistant who stands ready with a small, strong linen cord, tie up the wound tightly so as to retain all the air, and in two weeks the horse will be fit for active service.

Mr. D., tried this remedy several years ago upon a valuable young horse which he had obtained of a stranger, (horse jockey) as he was passing along, in the way of "a swop." And this leads me to suggest, whether some honest reformer who has at some period of life been engaged in the *profession*, (for it seems to be a profession with some) of "swopping" horses, can be persuaded to come out and expose, occasionally, the contemptible tricks of that contemptible craft. The character of the agricultural community, I think, requires it. The honor of our vocation demands it. Will not you, Mr. Editor, lend a small space in the columns of the Cultivator, to some professor Green? Yours, &c.

Eastport, Tuscarawas co., O. G. R.

Remarks.—The principle upon which the foregoing remedy effects the cure of sweeney, is no doubt the same as that of Dr. Felix: (O. Cult. Vol 2, p. 91.) namely the producing of *inflamation*, thereby causing a greater flow of blood and nourishment to the muscles that have become wasted. We are inclined to thiuk Dr. F.'s plan the most certain and effectual.

In regard to the tricks and deceptions of the "jockeys," we agree fully with G. R. that an exposure of them by one who has been fully initiated, would be the means of much good; and we should be pleased to open our columns for that purpose, if a suitable person will undertake the work.—Ed.

Introduction of the Alpaca into the U. States.

Col. Edward Clark, chairman of the committee appointed by the American Agricultural Association for introducing this animal from Peru into this country, stated that there is a prospect of $2,000 more being added to the funds already raised, and that it is contemplated to send an agent to South America the ensuing spring for the purpose of carrying the enterprise into effect. Col. Clark then called upon Mr. J. D. Williamson, who had resided some time in Peru, and requested that he would give some information upon the subject.

Mr. Williamson, in complying with the request, stated that the alpaca is an animal that endures a great deal of hardship, and that there is no doubt but it can be successfully and profitably propagated in the United States. He said its habits are something like those of the Canadian horse—picking up what no other animal will eat, even while the ground is covered with snow. The reason, he said, why these animals have not succeeded better in Great Britain is that proper regard was not paid in their selection in Peru, and that their treatment during their voyage and after their arrival was injudicious. He thought that choice animals could be obtained on the west coast of South America, for $8 or $10 each, and that they could readily be transported to Panama in whale ships, driven over to Chagres, and re-shipped direct for the United States.—*American Agriculturist.*

[See remarks on the Alpaca in last year's volume of O. Cultivator.]

No First Rate Orchards in Ohio!

Mr. Bateham—When at Columbus attending the Agricultural Meeting in December, I heard quite an intelligent appearing gentleman assert that there are no first rate orchards or nurseries in Ohio, and that he went to Mr. Downings, of New York, for all his choice fruits Now I am well aware that Mr. Downing has a very large and extraordinary collection of fruits, and is perhaps without an equal in the United States, as a nurseryman; but I will just state in order to be understood, that if Mr. Downing, or any other Eastern nursery-man will furnish me 200 varieties of apple trees that are better adapted to our soil and climate, and the wants of our market, and are really more valuable, all things considered, than a similar number that I can select from nurseries of Southern Ohio, I will pay one dollar each for them, and shall then consider myself $1000 the gainer.

Quaker Bottom, Lawrence co., O. H. N. Gillet.

To Drovers.—The Parkersburg (Va.) Gazette, of the 28th ult., publishes the following:

"The Board of Public Works of this State have reduced the Toll *on Cattle* on the North Western Turnpike Road. We understand that the toll on cattle will hereafter be one cent per head for twenty miles, instead of one and a half from January to June, as heretofore. The toll on cattle on this road is now lower than on any other great thoroughfare from West to East."

A man with an orchard full of apple trees, lately advertised for a lucky fellow, with the fever and ague, to shake his fruit down for him.

Starch becomes sugar by boiling 48 hours in 100 parts of water and one part of sulphuric acid.

To make Agricultural Papers more practical.

We are willing to challenge a comparison of the contents of our pages with those of any other agricultural periodical, as to the proportion of plain *practical* matter relating to farming. Still we occasionally hear from our readers the complaint that too many articles are of a theoretical or scientific nature, not adapted to the comprehension or *practice* of the mass of Ohio farmers. On the other hand, a few of our subscribers have expressed the desire that more space should be devoted to the elementary *principles* of agriculture, a knowledge of which is indispensable to the farmer who aims at a proper understanding of his profession. Our only course therefore, is, to endeavor, as we have heretofore done, to give a portion to *all* in due season; and thus strive to accomplish the greatest good of the whole.

But we have a few words of advice to those who are desirous that our columns should be more *practical* in the character of their contents. We just ask them to read the following bit of plain talk by our brother of the Western Farmer and Gardener, then govern themselves in accordance therewith:

There is entirely a wrong idea prevalent among farmers about writing for agricultural papers. They think that they ought not to write unless they have something new, or surprising; some discovery, some phenomenon; and that then they must write a *great* article. But every-day matters—how they plow their fields; how they keep them in good heart; how they manage each kind of crop; how they economise, how they blunder, how they lose; these things are so *common* that they are afraid to touch them. You are mistaken, gentlemen; these are the very subjects we want from your pens. These are the subjects that the bulk of our readers are the most interested in, and these are the subjects on which you are best informed. Do not be too ambitious, and wish to do something on paper that no body else ever did, for the probabilities are, that nobody will ever want to have you do it again. Why, cheese is to be made yet to the world's end, and butter, and pork and beef; men have yet to plant corn and sow wheat, and on all sorts of soils, and under all sorts of difficulties. Flies will never be done teazing; moths will not be pursuaded away, grubs and worms of every name will crawl and have a living out of men's crops; cows will calve, and until the sun goes down for the last time, the calf will resemble the parents; orchards are yet to be planted, fruit to be plucked, to be saved, green or dry, for winter's use. To the end of time, there will be men born who will have to learn how to manage clay soils, and sand soils, and rocky soils; there will be large farms and little farms, and fences around them, and houses on them, and families in *them*, and housewives will have to cook what men like to eat; there will be clothes to make, and to wear out. Why, what on earth do you suppose men want you to write upon but these very subjects—these plain, practical, every-day matters, about household, barnhold and farmhold affairs? But you reply, every body knows these things. I beg your pardon, every body don't know about them. For mercy's sake, just come with me to the next plantation to your own! Did you ever go there without seeing or thinking of two things. 1st. I could *tell* that man something about his management, if he would not get angry. 2d. And the other thing is, "well, *there* is something I'll remember and improve on."

There is not a farmer on earth, no matter if his farm is in Hard-scrabble itself, but may teach you something. If he is a good farmer you will imitate something, if a bad one, you will avoid some practice, which never before seemed so exceptionable. You cannot go to any neighbors without finding a variety of practice, arising from good reasons or bad. *You talk about these things.* These very things which you say are too common to put on paper are the very things which you discuss among yourselves whenever any gathering in your neighborhood brings you together. Don't be ashamed of common things. If some men hunted as they wish to write, they would not take a common fowling piece to kill a squirrel, but would harness up a span of horses, and drag a twelve-pounder about through the woods, load her up, touch her off, and be tickled enough if it made a thundering noise, no matter whether it hit a tree, the ground, or a squirrel. Gentlemen, our little paper could not stand many twelve-pounders. Pray give us plenty of musket shots, and rifle shots, and such like, and leave all your thunders for election days and stump speeches.

Why, my sturdy old friend, who grumbles because farming papers are not practical enough, are you going to turn Egyptian? Do you mean that we shall make brick without straw? What is the stuff out of which practical papers are made? Why, *your experience*, and your neighbor's, and his neighbor's, and everybody's neighbor's experience. An editor is a mere house-carpenter; he saws, and planes, and fits together the materials for a house, but you must put the *materials* into his hand; he lives in a sort of saw-mill; you bring the logs and he saws them up. Friends and neighbors, if you will haul your logs, our saw is all ready for work.

OHIO CULTIVATOR.

COLUMBUS, OHIO, FEBRUARY 15, 1847.

Editor's own Column.

We expect to be absent the coming week on business at Cincinnati. A careful clerk will attend to the business of the office.

No account of the meeting of wool growers at Steubenville arrived in time for this number. It will be noticed in our next.

We again request our friends not to become impatient or feel slighted if their communications or inquiries are deferred. We always at this season of the year receive more than we can properly attend to at the time, and hence must defer some till the busy season arrives when farmers have less time for writing.

To Editors.—Our sincere acknowledgements are due to very many editors of the newspaper press, for the favorable notice they have taken of our labors. Should any of them desire either of our past volumes, or two copies of the present one, we request them to inform us.

Who did it? The last number of our paper addressed to the "Farmers' Library," New York, came back, marked *refused*. Was that from *you*, father Skinner? We wait for a reply before we acknowledge "service" of that Madder notice!—besides, you must learn your printers better than to spell our name "*Bateman*," or your documents will not bear legal inspection.

The weather has continued changeable, and very severe at times, up to this period, and much injury is anticipated to sub-tender garden products—including buds of peach trees. The *wheat crop*, also, has suffered greatly.

Those Seeds.—We expect supplies of Seeds from New York, Philadelphia, and Cincinnati, by the last of this month.

Adjournment of the Legislature.

What has been done for Agriculture?

The General Assembly of this State adjourned on Monday, the 8th instant, after a session of nine weeks—a shorter one than usual. Among the laws passed, we are happy to state, are two directly calculated to aid in promoting the cause of Agricultural improvement, and which we think will prove highly beneficial.

The first is entitled "an act to amend an act for the encouragement of Agriculture," passed Feb. 27, 1846. This act reduces the former unwieldy number of the State Board to ten members–five to constitute a quorum, and appropriates $200 for defraying contingent expenses of the Board, such as printing circulars, clerk hire, postage, stationery, &c. The bill, as first reported by the joint committees, proposed to allow the members compensation while attending meetings, and appropriated the sum of $500; and in this form passed the House, but was lost in the Senate, and finally re-considered, amended, and passed as it now stands.

This law will greatly facilitate the operations of the Board; notwithstanding the pitiful provision that is made for carrying on any plans of improvement. The reduction of numbers will cause each member to feel an increase of responsibility; and allowing five to constitute a quorum, with three of them residing at Columbus, there will be little difficulty in procuring a meeting, though no compensation is allowed; as there are some members of the Board who are able and willing to make personal sacrifice to carry on the important work for which the Board was appointed.

The following is a copy of the law above named:

AN ACT to amend an act entitled "an act for the encouragement of Agriculture," passed February 27, 1846.

Sec. 1. *Be it enacted by the General Assembly of the State of Ohio*, That the "Ohio State Board of Agriculture" shall consist of ten members, five of whom shall constitute a quorum.

Sec. 2. That Allen Trimble, M. L. Sullivant, Samuel Medary, Darius Lapham, A. E. Strickle, Arthur Watts, M. B. Bateham, John Codding, Jared P. Kirtland and Isaac Moore, be continued members of the Board; their term of service, and the mode of appointing their successors to remain unaltered, by this act.

Sec. 3. That the sum of *two hundred dollars* be, and the same is hereby appropriated from the Treasury, for the use of the Board; and an account of the expenditures of the Board, shall be included in the Annual Report of the Board to the General Assembly.

Sec. 4. So much of the law to which this is an amendment, as conflicts with the provisions of this act, is hereby repealed.

WILLIAM P. CUTLER,
Speaker of the House of Representatives.
EDSON B. OLDS,
Speaker of the Senate.

Passed Feb. 8th, 1847.

The next law is entitled "an act to create a permanent Agricultural Fund for the State of Ohio." The bill was prepared by Mr. Trimble, of Highland, in accordance with the suggestions of his father, the President of the State Board, as contained in the report of the Board to the General Assembly, which suggestions may be found in another part of this paper. The principal source from which this fund is expected to be derived, is, the sale of lands that become what in legal phrase is termed *escheated* to the State—that is, where the owners die without heirs, and make no disposition of the property. Such cases are, of course, very rare; but those better acquainted with the matter than we, say they believe enough can be found in the State to create a very respectable fund. We hope the friends of agricultural improvement generally will lend their aid in the way of making known to the board any cases of escheated property that may exist within their knowledge. In the matter of licensing "shows" also; if the county officers are faithful, it is believed a considerable revenue can be obtained for the Board, without in any way increasing the burdens of the public, and certainly without any detriment to morals. The following is a copy of the law:

"AN ACT to create a permanent Agricultural Fund for the State of Ohio."

Sec. 1. *Be it enacted by the General Assembly of the State of Ohio*, That there shall be created, from the several sources hereinafter mentioned, a fund which shall be known as the "State Agricultural Fund."

Sec. 2. That the minimum amount authorized to be charged by county Auditors for permits, under the law passed February twenty-eighth, one thousand eight hundred and thirty-one, entitled "an act to regulate public shows," shall be and is hereby increased to twenty dollars, and that one half the revenue in each and every county, derived from such source, be set apart to the "State Agricultural Fund," to be paid over, by the county treasurer, to the Treasurer of State, at their settlements with the Auditor of State, as other moneys collected for that purpose now are; and that the other half remain, as now provided by law, for the use and benefit of the common school fund.

Sec. 3. That, whenever any real or personal property shall escheat to the State, under the eighth and ninth sections of an act entitled "an act regulating descents and the distribution of personal estates," passed February twenty-fourth, one thousand eight hundred and thirty-one, and all such as have heretofore so escheated under the provisions of said law, and which have not been taken possession of under the law entitled "an act concerning escheated lands," passed February twenty-fifth, one thousand eight hundred and thirty-three, shall be taken possession of, in the name of the State, by the county Auditor of the county in which such property may be found, and by him sold at public auction, at the county seat of such county, to the highest bidder, after having given thirty days notice of such intended sale, in some newspaper printed within the county.

Sec. 4. The court of Common Pleas shall, on the application of the county Auditor, appoint three disinterested freeholders of the county to appraise such real property, who shall be governed by the same rule as appraisers in Sheriffs' or Administrators' sales; and the Auditor shall sell such property at not less than two thirds

its appraised value, and may, at his discretion, sell the same for cash, or for one third cash, and the balance in equal annual payments; the deferred payments to be amply secured; and upon the payment of the whole amount of consideration money, shall execute a deed to the purchaser, in the name and on behalf of the State of Ohio.

Sec. 5. All moneys arising from sales made under this act, shall be paid over by the county Auditor to the Treasurer of the county, to be by him accounted for and paid into the State Treasury at his annual settlement with the Auditor of State, as other moneys collected for State purposes, for the use and benefit of the "State Agricultural Fund."

Sec. 6. The fund hereby created shall be at the disposal of the State Board of Agriculture, for the improvement of the agricultural interests of the State, in such manner as they may deem most conducive to that object, until otherwise provided for by legislative enactment; and shall at all times be held subject, upon such property being legally reclaimed by any heir, to the payment to the purcharer of the State, of the original purchase money, and legal interest, to the time of such reclamation.

Sec. 11. All acts and parts of acts, inconsistent with this act, are hereby repealed.*

WILLIAM P. CUTLER,
Speaker of the House of Representatives.
EDSON B. OLDS,
Speaker of the Senate.

Passed February 8th, 1847.

**Note.* The last section in the preceding act is numbered 11, because we have omitted sections 7 to 10, inclusive, which relate to the use of escheated lands in the city of Cincinnati, for the benefit of a "house of correction," about being established there.

The bill for the protection of sheep against ravages of dogs, was defeated in the Senate, we believe. As soon as the journals are printed, we shall look up these matters, and give the votes on several occasions where the interests of our readers were concerned.

The thanks of the friends of agriculture are particularly due to Mr. W. H. TRIMBLE, of the House, for important services during the session; also, to Judge TALLMAN, chairman of the committee on Agriculture, of the House, and to Messrs. SPINDLER, FORD and GRAHAM, of the same committee in the Senate.

Our Letter Budget.

INQUIRIES AND ITEMS OF INFORMATION.

OKRA SEED FOR COFFEE.—*To H. M., of Ashland.*—We believe this article is not much approved of by those who have tried it for the purpose mentioned. We shall have the seed next month.

LAW REGULATING WEIGHTS AND MEASURES.—We will look up the recent enactments on this subject and publish them, in order to check the evil complained of by H. M.

MCCORMICK'S REAPER.—To P. W. B., Richland co.—We possess no further information on this subject than has been published in our previous volumes. The machines made at Cincinnati, we believe were imperfectly made, and failed to give satisfaction. If any farmer in Ohio used it successfully the past year, we should like to be informed of it.

CORN SHELLERS.—These implements described in our paper last fall, are not manufactured or for sale in this State, to our knowledge. They can be obtained from the same sources as the straw cutters, &c.

BASS MATTING.—To B. S., Crawford co.—This substance for tying buds is best obtained from the inner bark of the Bass-wood or Linden tree. Cut a tree, say one foot or more in diameter, when the bark will peel, in spring or early summer, and peel off the bark in strips 5 or 6 feet in length, and lay it in a creek or pond of water (with stones to keep it under) for three or four weeks, when the inner bark will separate in thin ribbons.

We cannot furnish the pear and cherry grafts desired.

CORN DRILL.—To 'T. H.,' Perry county. We do not know of any good machine made in this State, for planting corn, at the present time. Several kinds have been introduced, but do not seem to gain much favor with the Buckeyes. Will friend Lapham give us a drawing and description of the one made by his father, which we saw at his house last summer?

PEAS.—To 'Buckeye,' Columbiana county. We do not know the variety of peas you call "crowders," nor any possessing quite the desirable qualities you name, though we are familiar with twenty or more varieties.

TRIMMING KNIFE.—The implement used by Mr. Simmons, of Delaware, for trimming hedges, mentioned in our vol. 2, p. 166, we cannot exactly describe. Perhaps our friend, Dr. THOMSON, can procure for us a drawing, with dimensions, &c.

SWEET POTATOES.—'B. B.' of Clermont county, wishes particular directions for sprouting, planting, and raising sweet potatoes. Who will favor us with a good article on this subject?

ARTICHOKE FODDER.—The same gentleman inquires how artichoke tops are used for fodder; whether cut and mixed with other food, and if so, what machine is best; what part or proportion of the stalks are used, &c. We shall have to draw on friend Noble for an answer to this inquiry.

THE CHEESE FLY.—'W. R. W.' Athens county, says his "better and larger half" wishes to be informed how to prevent the ravages of the cheese fly. Will not some Western Reserve housewife send us the information?

Notices of Publications.

THE POTATO PLANT, its uses and properties, together with the cause of the present malady; the extension of the disease to other plants, the question of famine arising therefrom, and the best means of averting that calamity. By ALFRED SMEE, F. R. S., &c. Wiley & Putnam, New York, 1847.

This is a reprint of a recent English work. It is a handsome volume of 160 pages—illustrated with ten lithograph engravings, showing microscopic views of the potato disease in its various forms, with fungi, insects, &c. The author seems to have bestowed much labor on the subject of this treatise, and the work is one of great interest at the present time, in all countries where the potato malady has appeared. Mr. Smee, after examining the various theories in regard ro the cause of the evil, and bestowing much personal research on the subject, arrives at the conclusion that it is the work of an insect —a species of *Aphis*—resembling those that affect many kinds of plants and trees in our gardens. In proof of this hypothesis he adduces many facts and strong arguments, but we still feel inclined to doubt the correctness of his deductions, and return to our former conviction, that the secret is not discovered. Nevertheless we feel indebted to Mr. Smee for the interesting facts he has communicated, and we commend his book to the attention of those interested in such pursuits. It is for sale at Riley's, in this city.

COLMAN'S EUROPEAN AGRICULTURE, *part* VIII.—This number is devoted to a continuation of the subject of crops cultivated in Great Britain, including besides grains, roots, &c., the grasses and fodder plants, also the growth and preparation of *flax*. Next is live stock, then dairy husbandry, and finally manures, with "general reflections." This is a very important and useful number, and is, we suppose, the closing one on the British isles. Mr. Colman is now on the continent, and will probably devote the remaining two numbers of his work to observations in continental Europe.

CHEMICAL PRINCIPLES OF THE ROTATION OF CROPS.—Pronounced before the American Agricultural Association, at New York. By D. P. GARDNER, Professor of Chemistry, &c.

From a hasty examination of this essay, we judge it to be an able and valuable contribution to scientific agriculture. Such works would be of great practical utility to farmers, were they only educated as men should be who are to carry on the important business of cultivating the earth, and producing thereby the sustenance and wealth of the families and nations of mankind.

THE HERALD OF TRUTH—Monthly. Edited by L. A. HINE, Cincinnati. We have read this work with so much pleasure, and we may say profit, that we again notice it. J. T. BLAIN, of this city, is agent, at the News Room near Clark's new building.

"CHEMISTRY OF THE FOUR SEASONS." This is an excellent volume to put into the hands of young people, to impart a taste for scientific reading, especially for the study of chemistry. Nor will older persons find it at all lacking in interest to them. We will give an extract or two some day.

THE "OX-EYE" APPLE.—The Columbus Horticultural Society received a few days since, through Mr. Massie, of Hillsboro, from Gov. Trimble's orchard, we believe, a box of the very excellent apple, called *ox-eye* in that region; the same as was noticed in the extract from the Horticulturist, published in our paper of Jan. 15, and by Mr. Downing pronounced *Vandevere*. It certainly resembles the Vandevere, and we think is identical with it, though members of our society who were present, expressed some doubts on the subject, as it differs somewhat in flavor and appearance from the Vandeveres that were exhibited from the orchard of Mr. Latham.

LADIES' DEPARTMENT.

A Slight Breeze from the Valley!

MR. EDITOR:—On reading the Ohio Cultivator of Jan. 15th, I noticed a comment made by you upon the letter of "Rosella." Now I should like to know whether you think "a plain farmer's daughter," so low in the scale of intellect and education, as to be incapable of expressing her ideas with correct and forcible language, or whether *she* (a farmer's daughter) should not aspire to any higher employment than milking cows, feeding chickens, &c.

If such are your opinions, I give you an invitation to visit the "Miami Valley" at some leisure time, and you may possibly extricate yourself from the error you have fallen into, by calling upon some of the "plain farmer's daughters." I imagine you will not only find them capable of "making *soap*," but also able to converse on subjects of higher importance. It would be well to try the experiment at any rate; but if I have mistaken your motives, you will excuse me by giving an explanation.

With respect, MARY JANE.

Miami Valley, Jan. 24th, 1847.

REMARKS.—What an unfortunate wight we are! Forever blundering into some difficulty with the LADIES, notwithstanding we love them as we do our life! How could you, Mary Jane, for one moment suspect us of cherishing such an ungallant and erroneous opinion of our fair readers, who have the honor of being "plain farmers' daughters"? And that too after spending so much time in visiting among them as we have done during the past few years, including several vsiits to the "Miami Valley!" No, no, indeed; you do us injustice by the thought—so let us explain: The remark of ours, appended to the letter of Rosella, was occasioned by a suspicion we had entertained, that the letters were written by some jocose friend of the other sex! and this arose not from the cause alluded to by Mary Jane, but the reverse—namely, the masculine style of the handwriting and composition. Now, fair ones, have we not offered a sufficient defence?—ED.

How to make Good Soap, &c.

MR. BATEHAM:—I observe in the Cultivator, that Rosella wishes to know the best method of making soap, and as I claim some experience in that line, I will freely give the best directions that I know of.

Take 20 pounds of potash and dissolve it in 25 gallons cold soft water, (an iron kettle is the best to put it in.) It will take 5 or 6 days to dissolve, unless the weather is pretty warm. When dissolved, take 20 pounds of clean grease, or rough grease that will make that weight, and cleanse it with white ley, then strain it through a sieve or cullender into the soap barrel, and add the potash ley, being careful not to disturb the sediment; then soak the sediment of the potash with a few gallons more soft water, and pour it into the barrel, so as to save all the strength of the potash.

In this way I have never been over three days in making a barrel of soap; and as to its quality I should be proud to exhibit it before any lady in the State.

In regard to the best time for making soap, the month of April is as good as any; or just before hot weather commences; as all rough grease must then be looked after, or the flies will take the matter into their hands.

BED BUGS.—After trying every other method I could think or hear of, ten years ago I commenced treating these noxious intruders with quicksilver, and I have found it more effectual than any thing else. Take half an ounce of quicksilver, the white of one egg, and beat together till well incorporated; then wash the bedstead clean in cold water, and apply the mixture with the feather end of a quill, to every joint and crevice. If the first application is not sufficient, try it again; but let there be no getting out of patience or scolding. I only find it necessary to apply the dressing once a year; and although I cannot say I have not seen a bug in my house the past ten years, I can say I have seen very few.

PRESERVING BACON.—I observe it is recommended to dust bacon with black pepper, before putting up to smoke. We rub the fleshy parts of our hams with *red* pepper before salting—about a tea-spoonful to each ham, and for the last 20 years have not found it necessary to use any more care to keep our hams from flies than we do our bread.

Now, Mr. Editor, I think if all the farmers' wives who are readers of your paper, will communicate the results of their experience as freely as I have done, you will not lack for matter to fill the "Ladies' Department."

A FARMER'S WIFE.

Huron co. Ohio, 1847.

In Defence of the Dogs!

Here is a letter from one of our readers who has really "got *mad*" on account of what he calls our abuse of the dogs! What shall we do for the relief of the poor man? His madness will surely cause him to commit "bodily damage" if not restrained. Perhaps his mind will become calmed if he sees his letter in print; so here it goes, *literatem et punctuatem!*—Ed.

Mr. Bateham:—You have been saying so much lately about dogs being worthless, and doing so much mischief and ought to be taxt that Ive got mad. You needent tell me that dogs are worthless for I couldent hardly live without mine. they ketch a great deal of game, and then I make a great deal a selling pups—and then they are so healthy for children to play with, and then nobody nor nothing cant come about me to steal any thing day nor nite, and if any critters gits in my lots, or if any body elses hogs comes about my door they are sure to receive bodily damage.

You think they do a great deal of mischief but they dont compared with the good they do. What if they do kill some sheep, they dont eat em all up, and then they belong to rich owners. and if they kill fokes once in a while it aint much loss for we are over run with fokes now and game has got so scarce that poor fokes cant hardly live.

And you want to have em taxt but you wont never get it done for some of the legislaters keeps dogs and they wont do it. what! make us pay twenty five cents or a doller for evry dog!! it would ruin the state. I will take my gun and fite in blood up to my nees before ile submit to it. I reckon you want us all to sell our dogs and give you the money for your papers but I wont do it. I wouldent take no money for my dogs. and I wouldent give one pint of possums greas for all the papers youve got. Darwin Doge.

Braceville, Trumble Co. Feb. 1847.

A Correction--Cooper Apple.

Mr. Bateham:—In your last paper, by inserting in my note the word "last" and adding in brackets "[From the Horticulturist]" you make me say that the "last" "Horticulturist" had stated twice, or more, that the "Cooper" apple is a seedling of this State. Now the "Horticulturist" has not so said, either in the last number, or any other number that I know of. I meant exactly what I said, that, I "seen it stated twice or more, in *your* paper," that the cooper is a seedling of Ohio; instance the communication of I. Dille Esq. of Newark O. in your No. for November 15, 1846; and instance also the communication of Hon. Jas. Matthews of Coshocton O. in your paper of Jan. 15th 1847, both of which were originally written for the Ohio Cultivator. As I take some pride in being correct, especially when fruits are concerned, you will oblige me by publishing the above correction.

Very Respectfully, &c.,

C. Springer.

Meadow Farm, O., Feb. 9, 1847.

Remarks.—We supposed friend Springer referred to the notice of the Cooper apple which we extracted from the Horticulturist, and by which the impression was certainly conveyed that it was believed to be a seedling of Ohio, though it was not stated in distinct terms. The notice of this fruit by Mr. Dille, had escaped our recollection; and, by the way, that is the only case, we believe, where it is in our paper "stated that the cooper apple is a seedling of Ohio;" as Mr. Mathews only states, "it is said to be" &c, and any one would suppose he referred to Mr. Springer as his authority, from whom he received his grafts.—Ed.

Culture of Sweet Potatoes—Inquiry.

Mr. Bateham:—I am told that there is a new method, adopted, in this country, within the last few years, in regard to the cultivation of the sweet potato. That those who best understand the business do not plant the root, as in olden times; but that they sprout the root and take these sprouts for the purpose of planting. Since I have found a method by which I can keep this potato through the winter without any difficulty, I felt like adopting the best mode for its culture; and as I do not understand the method here referred to, and as I know no one to whom I could apply for information, I call upon you, or your correspondents for directions in the premises. How is the potato sprouted? How is the sprout separated; is it pulled off, or cut out, taking the eye and part of the potato? Tell us all about the process.

Yours, &c.,

C. Springer.

Meadow Farm, O., Feb. 9, 1847.

Experiment in Wheat culture.—Mr. J. F. Harrison of South Charleston, Clark county, informs us that he tried an experiment to test the relative value of two kinds of wheat the past year, as follows: "The wheat was sown on corn land; the soil pretty stiff clay, rather thin, enriched by feeding cattle on it the previous winter; the corn was cut and stood in shocks 12 rows apart; sowed the wheat 20th September, alternately, two lands with Mediterranean and two with red-chaff. The Mediterranean yielded 26 bushels to the acre, and the red-chaff only 19; the former weighed 65 lbs. to the bushel, and the latter 61 or 62. I think the trial a fair one; and the result was as I expected, having for several years found the Mediterranean variety more productive than the other. On different land, and in different seasons, of course the result might be different."

[Some persons think the Mediterranean less valueable for flour than other varieties of the same weight.—Ed.]

A Convenient Horse Barn!

Friend Bateham:—As the *convenience* of my barn has attracted the notice of my neighbors and guests, I propose to give a brief description of it.

Item first.—The barn is located in a small "hollow," quite near a slight elevation of ground, where some might have been inconsiderate enough to have placed it. As it now is, the water in storms settle under the barn so as to leave the ground comfortably dry *at a distance* from the barn, and to treasure up the wash of the manure, so as to have it there *when the barn is moved*. It is elevated upon blocks at each corner so as to admit of free circulation of air, summer and *winter*.

Item second.—As it was constructed for a man who keeps one horse and a cow, in a climate where both would consume from three to four tons of hay in a winter, the "loft" is capable of containing, with care in stowing away, about *half* the required amount for the year.

Item third.—It was designed to house my buggy and cutter. The door is some six inches too low to admit a covered carriage; but having had a fair warning from breaking the top of a friend's carriage, I can put a sign over the door, so that if a friend calls in the day time, in my absence, he can secure his carriage while he stays by letting down the top, *if* it has a calash top—and some think such tops the best, and folks ought to have such.

That the *model* characteristics of my barn may be fairly before you, I will add a few minor particulars. I can throw sheaf-oats from above into the rack; the horse gets some, the fowls gather some from the floor, and the pig gets what fall through the floor under the barn; all this is convenient, and nothing is lost; no thrashing is required, and litter for the horse is furnished in due quantity. *Again*, I have corn in the ear in one corner of my barn, I throw of it upon the floor and thrash it with my heel, *in part*, throw the half shelled ear to the cow, which for a little corn will eat the cob; the hens and pig get the rest; all this you see is handy; and saves transportation and toll to the corn cracker! QUIZ.

Ashtabula Co. O.

Education and Agriculture.

How long will the farmer be content to toil, and have his chance to win or lose as much a hazard as if he played at the gaming table? Who would play his cards with the back to him, and stake his all on the issue, when he might see the face of every card at the board? Why will a farmer plow and sow, and trust to chance for a crop, when, by the aid of science, he can *know* his chance of a crop?

If we would be successful in any pursuit we must know what we do. If a mechanic would make an edged tool he must know that he works steel, and not iron, or brass.

Just as essential is it that the farmer should know that his fallow has the necessary material and vegetable substances to produce a crop of wheat before he sows.—If the farmer would have pay for his labor, he must know whether the constituents of his soil will sustain 5, 10, 20, or 50 bushels of wheat per acre before he sows. All this may be known by the aid of a little science.

We have medical colleges, law schools, and theological seminaries; academies, colleges, and universities, in which every thing may be learned, save that which shall aid the man who 'earns his bread by the sweat of his brow.' The youth, with the first honors of his college, fails in competition with what he has sneeringly called "*a laborer*" or "*an operative*," because his learning is all fancy and *theory*—nothing *practical*.

Education wants to be placed on its proper basis. The farmer and mechanic want schools in which theory and practice—science and art, shall be taught as twin brothers, where each shall aid in developing and perfecting the other.

Can not you, aided by the State Board of Agriculture, induce the Legislature to pass a general law enabling agricultural societies, or associations of individuals, to establish such schools on experimental farms, as shall at once qualify the students, both in the arts and sciences, for the active practical pursuit of his calling, whether farmer or mechanic? We want the Farmer's College, where all the sciences that aid him in his calling shall be taught and practically applied on an experimental farm; and where all the implements of husbandry shall be manufactured: each student receiving daily from two to four hours instruction on the farm, or in the shop, as his study in the school may require in the combining of theory and practice.

Such schools must be had, and an agricultural survey of the State must be made, before we can hope for permanent and valuable improvement in the farming community.

Can the elevation and the improvement of man, the elevation and improvement of Agriculture, Horticulture, and the mechanic arts—the conversion of the sciences to the amelioration of the condition of man, have half the attention that is lavished on banks, and other petty incorporations? Can we get a simple general law to enable associations by agents, or trustees, to get up and sustain schools? We shall see.

Southern Ohio, Feb. 1847. A PROGRESSIVE.

A fact worth knowing to persons constructing Machinery.—If wooden and cast wheels are to work together, use this rule of finding the circumference from the diameter: say, as 8 is to 25. Then in spacing the wheels for the cogs take 3¼ inches in the dividers and it will be found to make one cog for every inch of diameter in the wheel. In other words, make the diameter of the wheel to consist of just as many inches as you wish cogs in the wheel, and then space with the dividers set to 3¼ inches, and, if the measurement be correct, there will be no fraction to dispose of by guess. This gives a wooden cog of 2 inches and a cast one of 1½ inches. The value of the rule is found in the ease with which all the, otherwise intricate, calculations are made. He that can count and measure accurately, can proportion his wheels and space his cogs.

A Mechanic.

Clermont county, O.

Conducting Water through Pipes.

Mr. Editor:—In Vol. 1, page 137 Ohio Cultivator, your correspondent Z, makes some inquiries on this subject, to which you have appended some remarks Both yourself and Z. have made some statements which require to be corrected lest they might lead others astray. Z makes a sneer "at a professional gentleman," because he intimated to him that the discharge of water "through a small tube" was obstructed by friction; and he very gravely asks, "if the theory of his doctorship be correct, can any one tell why it *will* run through a short tube?" and he then goes on to state *his* opinion that "if water will not run through a long tube it must be owing to some other cause" than friction. In your remarks, you have stated that the friction does not depend "on the horizontal distance" or length of the pipe "nor on the ascent in a tube or reservoir," but "on the force or speed with which the stream will flow through a pipe"—provided the pipe be more than half an inch in diameter. And you also recommend the use of pipes of two or three sizes, "commencing with the *largest* at the fountain head and ending with the *smallest*, at the other extremity; this will increase the force of the current and tend to prevent obstructions."

The quantity of water discharged through pipes, is deduced from the law of the descent of falling bodies, modified by the resistance of friction upon the inner surface of the tube, and the further resistance produced by the deviation of the tube, either horizontally or vertically from a straight line, as well as the obstruction caused by the accumulation of air or gas within the tube.

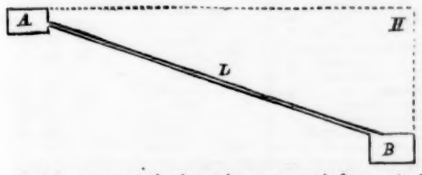
By an inspection of the stream of water when it issues from a circular orifice pierced in the side of a vessel, it will be seen that it is contracted at a little distance from the side of the vessel; and therefore, if the area of the stream, where it issues from the orifice, be multiplied into the velocity (as deduced from the law of falling bodies) with which the stream issues, the quantity thus obtained will be greater than the real quantity discharged. The amount of this diminution has been ascertained by numerous and varied experiments, and found to be in the ratio of 100 to 62; or, in other words, if the quantity discharged, as ascertained by calculation as above, be 100 cubic feet per minute, the quantity *actually* discharged in the same time as ascertained by measurement will be 62 cubic feet.

Now if a cylindrical tube be applied to the orifice, whose inner diameter is equal to the orifice, the discharge will be *increased*, until the length of the tube amounts to four times its diameter; after this limit it again *decreases* in consequence of the friction in the tube. Under the action of this resistance, the velocity of the water, which at first varies with the square root of its depth (agreeably to the law of falling bodies) will finally become uniform. Hence it will be seen *why* it is that short tubes discharge more water than long tubes, under equal heights. The increase of the discharge through a tube as large as the orifice, and not exceeding four times its diameter in length, is as 82 to 62; or, if the orifice discharge by calculation, 100 cubic feet per minute, a tube of the same size, will discharge 82 cubic feet in the same time.

But it is not necessary that the tube should be as large as the *orifice*, to obtain the same increase; for the discharge will be the same, if, instead of making the tube as large as the orifice, it be contracted in the form of a frustrum of a cone, at a distance of half the radius from the orifice, so that the area of the tube at that point shall be

62 hundredths of the area at the orifice. The discharge through a tube of a given size will, therefore, be increased by enlarging the upper end in the manner above stated. This is an important consideration when lead or iron pipes are used to convey a given quantity of water, on account of the expense of such pipes.

From the results of various experiments made on tubes for conveying water, the law of the resistance of friction has been determined. It is found to consist of two parts, one of which is directly as the velocity, and the other as its square The resistance also varies with the surface, by which the water is in contact with the channel in which it runs. And from thence rules have been deduced for computing the quantity of water discharged by tubes of given demensions, and under given depths below the surface of the fountain.



Let A. represent the fountain or reservoir from which water is to be conveyed to the trough B through the pipe L. Let A be the height of the surface of the water in the reservoir, above the place of discharge, and let D be the diameter of the tube in the smallest part. It is required to find the quantity 2 which will be discharged in a second of time. The length and height being given in feet, and the diameter of the tube in inches, the formula is as follows.

$2 = 0.608 \sqrt{(D^5 \over H L)}$ when the quantity is required in gallons.

In order to make the above formula intelligible to all your readers, I will apply it to the case given by Z. in page 137 of Vol. I.

Let L = 80 rods or 1320 feet.
" H = 50 feet.
" D = 2 inches.
" Q = gallons.

Then $Q = 0.608 \sqrt{(32 + {50 \over 1320}} = 0.67$; or, the same be thus expressed in words.

Divide the height (50) by the length (1320); multiply the quotient by the fifth power of the diameter ($2^5 = 32$); extract the square root of the product, which being multiplied by 0.608 will give (0.67) the number of gallons the tube will discharge in one second, or 40 gallons in one minute.

Now if the diameter of the tube be made one inch or half the above, the discharge will be but 7 gallons per minute, or about one sixth part of the amount discharged by the pipe of twice the diameter. Out the area of the inch pipe is *one fourth* that of the two inch pipe, and to show the fallacy of the principle that the friction depends "on the force or speed with which the stream flows" the quantity discharged by an inch pipe should be but *one fourth*, instead of *one sixth* less than the discharge of a two inch pipe, when the length and height of each remains the same.

From the foregoing principles it will be seen that the friction not only increases with the *length* of the pipe, but it also increases with the diminution of the *size* of the pipe, in a greater ratio than the discharge is reduced.

I cannot agree with you in recommending the enlargement of the tube from the lower extremity towards the fountain head by using two or three different sized pipes. The effects which you state will take place by such an arrangement, viz: the "increase of the force of the current, and a tendency to prevent obstructions," I conceive to be directly the reverse.

Respectfully, D. L.

Mount Tabor, Jan. 25, 1847.

For the Ohio Cultivator.

The Farmer's Weather-ometer.--No. 3.

Comprising General Indications and Local Predictions respecting the Changes of Weather, gathered during Travels in America and Europe.

BY A RURALIST.

As a conclusion to remarks offered in the preceding number respecting the barometer, I will describe the *Leech Barometer*, which I have frequently seen successfully used by the farmer.

Put a leech into a large phial three parts full of clear rain water, regularly changing the same thrice a week. Place it in a window fronting the north. In fair and frosty weather the leech will be motionless, and remain rolled up in a spiral form at the bottom. Prior to rain or snow it will creep to the top, where, if the rain will be heavy, and some continuance, it will remain a considerable time—if a trifling rain is about falling, it will descend. Should the rain or snow be accompanied with wind, it will dart about its habitation with astonishing celebrity, and seldom cease until it begins to blow hard. If a storm of thunder and lightning is approaching, it will be exceedingly agitated, and express its feelings in violent convulsive starts at the top of the phial. It is remarkable. that, however serene and favorable the weather may be, and not the least indication of a change, either from the sky, the barometer, or any other cause whatever, yet if the leech ever shifts its position, or moves in a desultory manner, the coincident results will certainly occur within thirty-six hours, frequently within twenty-four, and sometimes in twelve, though its motions chiefly depend on the fall and duration of the wet, and the strength of the wind.

I will now notice the *Hygrometer*. It is a contrivance by which we are enabled to measure the degrees of dryness or moisture of the atmosphere.

There are various sorts of hygrometers, for, whatever body either swells or shrinks by moisture or dryness may be formed into a hygrometer.

1st. A sponge makes an excellent hygrometer, not losing its efficacy by use as many substances do. To prepare the sponge, first wash it in water, and when dry wash it again in water wherein sal ammoniac, or salt of tartar, has been dissolved. Now, if the air becomes moist, the sponge will grow heavier, and if dry it will become lighter.

2nd. In order to make a hygrometer with those bodies which acquire or lose weight in the air, place such a substance in a scale on the end of a steel yard, with a counterpoise which shall keep it in equilibria in fair weather—the other end of the steel yard rising or falling, and pointing to a graduated index, will show the changes.

3d. On this principle a Mr. Edgeworth, of England, made a wooden automaton. Its back consisted of soft fir wood, about an inch square, and four feet long, made of pieces cut cross way in respect to the fibres of the wood, and glued together. It had two feet before and two behind, which supported the back horizontally—but were placed with their extremities (which were armed with sharp points of iron,) bending backwards. Hence, in moist weather, the back lengthened, and the two foremost feet were pushed forwards. In dry weather the hind feet were drawn after, as the obliquity of the points of the feet prevented it from receding. And thus, in a month or two, it walked across the room which it inhabited. Might not this machine be applied as an hygrometer to some meteorological purpose?

4th. A very simple hygrometer may be formed by means of a flaxen line or large well manufactured whip cord, five feet long—having a graduated scale fixed to an index, moving on a fulcrum. The length of the index, from the fulcrum to the point, should be ten inches—that of the lever, from the fulcrum to the middle of the eye, to which the cord is fixed, two and a half. The air becoming moist, the cord imbibes its moisture—the line, in consequence is shortened, and the index rises. On the contrary, the air becoming dry, the cord discharges its moisture,—lengthens, and the index falls.

That the farmer may be benefitted by this instrument, will be seen by the following extract from the "*Minutes*" of an English agriculturist:

"Yesterday morning, while the hygrometer stood at two degrees moist, the peas were by no means fit for carrying: the haulm was green, and the peas were soft. About 10 o'clock the hygrometer fell to one degree dry—before one the peas were in good order—I went up into the field merely on the word of the dygrometer, and found them fit to be carried."

But the only method by which the changes of weather can be traced with precision, is, to keep regular registers of the weather, and to work every appearance in the heavens or on the earth which may tend to point out the approaching seasons This point cannot be urged too strongly on the attention of the intelligent agriculturists; for, as the pursuits of the farmer necessarily require him to be much in the open air, this office would become both regular and easy to him; and his progress in fixing facts, and in drawing judicious conclusions from them, would probably be more speedy and successful than he might otherwise expect, and would enable him, *profitably*, to regulate the management of his crops.

This important object might in all probability be more effectually obtained, if, together with the usual registers of the weather, obstructions were made on the winds in many parts of the earth. For this purpose the three following instruments have been suggested; they may be constructed at no great expense, and thus some useful information might be acquired.

1st. To mark the hour when the wind changes from North-east to South-west, and the contrary. This might be managed by making a communication from the vane of a weathercock to a clock, in such a manner, that if the vane should revolve quite round, a tooth of the revolving axis should stop the clock, or put back a small bolt on the edge of wheel, revolving once in twenty-four hours.

2nd. To discover whether in a year more air is passed from north to south, or the contrary. This might be effected by placing a windmill sail of copper, about nine inches diameter, in a hollow cylinder, about six inches long, open at both ends, and fixed on an eminent situation, exactly north and south. Thence only a part of the north-east and south-west currents would effect the sail so as to turn it; and if its revolutions were counted by an adapted machinery, as the sail would turn one way with the north currents of the air, and the contrary one with the south currents, the advance of the counting finger either way would show which wind had prevailed most at the end of the year.

3d. To discover the rolling cylinder, of air, the vane of a weathercock might be so suspended as to dip or rise vertically, as well as to have its horizontal rotation.

LANCASTER, Ohio.

Subsoils and their Management.

The efficiency of soils for producing good crops, depends much on the subsoil. If this consists of impervious clay or hard-pan, so as to oppose a ready escape to the water, it is evident that the accumulation of the heavy rains, will materially injure the vegetation above them,; for it is certain that while nothing is more essential to productive crops than an adequate supply of moisture to the roots, nothing is more injurious than their immersion in stagnant water. When such is the character of the subsoil, it should be under-drained if poesible, or if this be not practicable, it should be broken up and loosened by the use of the SUBSOIL PLOUGH.

A variety of ploughs have been constructed for this purpose, but unless it be intended to deepen the soil by an admixture of manures, care should be taken to avoid bringing up the subsoil to mix with that on the surface. In addition to the more ready escape of water thus secured by breaking up, the air is also admitted, which enables the roots to strike deeper, and draw their nourishment from a much greater depth. The increased distance through which the roots penetrate, furnishes them with additional moisture during a season of drought, thereby securing a luxuriant crop which might otherwise be destroyed. This is frequently a great item in the profit of the farmer; as besides the increase of crop which follows a hot dry season when a full supply of moisture is furnished, the product is usually of better quality; and the general deficiency of agricultural produce which ensues from seasons of drought, makes his own more valuablo.

As a result of this practice, there is also a gradual increase in the depth of the soil, as the fine and more soluble particles of the richer materials above are constantly working down and enriching the loosened earth below; and in time this becomes good soil, which in proportion to its depth increases the area from which the roots derive their nutriment. So manifest are the advantage which have followed the use of subsoil ploughs, that they have been extensively introduced of late years among the indispensable tools of the better class of agriculturists.

When the subsoil is loose and leechy, consisting of an excess of sand or gravel, thereby allowing the too ready escape of moisture and the soluble portions of manures, the subsoil plough is not only unnecessary, but positively injurious. In this case the surface soil should be somewhat deepened by the addition of vegetable manures, so as to afford a greater depth through which they must settle before they can get beyond the reach of the roots; and the supply of moisture is thereby much augmented. It is better however to keep lands of this character in wood, or permanent pasture. They are at best ungrateful soils, and make a poor return for the labor and manure bostowed upon them.

If there be a diversity in the character of the sub and surface soil, one being inclined to sand and gravel, and the other marl or clay, a great improvement will be secured by allowing the plough to reach so far down as to bring up and incorporate with the soil some of the ingredients in which it is wanting. This admixture is also of remarkable benefit in old or long cultivated soils, which have become deficient in inorganic matters and in their texture.

The effect of long continued cultivation, besides exhausting what is essential to the earthy part of plants, is to break down the coarser particles of the soil, by the mechanical action of the plough, harrow, &c., and in a much more rapid degree, by the chemical combinations which cultivation and manuring produce. A few years suffice to exhibit, striking examples in the formation and decomposition of rocks and stones. Stalacites and various specimens of limestone, indurated clays, sandstone and breccias or pudding stones, are formed in favorable circumstances, almost under our eye; while some limestones, shales, sandstones, &c., break down in large masses annually, from the combined effect of moisture, heat and frost. The same changes on a smaller scale, are constantly going forward in the soil, and much more rapidly while under cultivation. The general tendancy of these surface changes is towards pulverization. The particles forming the soil from the impalatable mite of dust, to the large pebbles, and even stones and rocks, are continually broken up by the combined action of the roots and the constituents of soils, by which new elements of vegetable food are developed and become available, and in form so minute, as to be imbibed by the spongioles of the roots, and by the absorbent vessels, they are afterwards in their appropriate places in the plant. Where this action has been going on for a long period, a manifestly beneficial effect has immediately followed from bringing up and mixing with the superficial earth, portions of the subsoil which have never before been subject to cultivation

A subsoil which is permeable to water, is sometimes imperceptibly beneficial to vegetation, not only by allowing the latent moisture to ascend and yield a necessary supply to the plants, but a moisture frequently charged with lime and various saline matters, which the capilliary attraction brings from remote depths below the surface. It is probably from this cause, that some soils produce crops far beyond the yield which might be reasonably looked for from the fertilizing materials actually contained in them. This operation is rapidly going forward during the heat of summer. The water thus charged with saline matters ascends and evaporates at and below the surface, leaving them diffused throughout the soil. After long continued dry weather a thin white coating of these salts is frequently discernible on the ground.

Where rain seldom or never falls, this result is noticeable in numerous and sometimes extensive beds of quiescent (not shifting) sand. Deposites oftimes occur several inches in thickness. Such are the impure muriate of soda and other salts in the arid deserts of California; in the northern parts of Oregon; the nitrates found in India, Egypt, Peru, and various parts of the world.—*Allen's American Agriculture.*

Experiments in Wheat Culture.

MR. BATEHAM:—Last year I had good wheat on my little farm. I soaked the seed in fish brine and limed it. Sowed the 9th or 10th of September—three varieties of seed—red-chaff, blue-stem and Mediterranean. The Mediterranean turned out much the best. It should be sown early, pretty thick, and harvested rather green; then it makes flour little if any inferior to the best varieties.

This fall there is a kind of insect doing much injury to some wheat fields. It has almost entirely destroyed 3 or 4 acres of my wheat; but I attribute this mainly to bad farming,—for I have had the field in wheat three crops in succession, with only one year's intermission between them. This I know is bad policy, for the soil becomes light, and set with spear grass, &c, I hauled out this last fall a large pile of leached ashes that had lain for 10 or 12 years, and spread it on a part of the wheat land. I can now see its effects to the very furrow. It has kept off the insect, and given the young wheat a healthy color, while that close along side, where no ashes was applied, has been destroyed, or greatly injured. The Mediterranean wheat seems proof against insects, thus far.

JESSE THOMAS.

Perry Co. O. Jan. 1847.

PORK PACKING IN CINCINNATI.—Some idea may be formed of the despatch attending the operations of packing pork in this city, by a statement of three days' work in the pork house of Thos. Hennings & Co., on East Court st., for account of E. A. & W. Winchester, of Boston.

1846.	Hogs rec'd and weighed. Head.	Pork cut and packed Bbls. and tcs.		Working time. Hours.
Dec. 30,	1,103	853	33	11½
Dec. 31,	952	69	85	13½
1847.				
Jan. 1,	1,575	597	89	13½
Total,	3,129	2,347	2 7	38½

In addition to which about 60 tcs. of sides remained unpacked, for want of tierces. The operations of lard rendering kept pace with the packing. Shipments were making, and no less than 3,232 bbls. and tcs., 35 hhds. and 1,500 kegs, were drayed to the river, and shipped on board steamers within three days.—*Atlas.*

Longevity in Ohio. The Akron Democrat mentions the death, in Royalton, Cuyahoga county, on the 3d instant, of Mr. JOHN SHEPERD, aged *one hundred eighteen years nine months and eighteen days.* He was a revolutionary soldier; was born in Pennsylvania, March 16, 1728.

A LARGE CROP.—Mr. J. B. Noll, of Ohio township, in this county, raised, the past season, on 97 rods of land, or nearly *five-eighths* of an acre, the following produce:

885 pumpkins, averaging 21 lbs. each,	18,585 lbs.
5 do " 83 " nearly	414 "
(The largest one of these 5 weighed 138 lbs.; the smallest 55 lbs. The 5 grew on one vine.)	
70 bush. of potatoes, at 65 lbs. per bush.	4,550 "
20 " corn, at 56 lbs. per bush.	1,120 "
Total number of lbs.	24,669

Being 12 tons and 669 lbs. of the whole.

Mr. Noll says there was also raised on the same ground a small patch of water-melons, sweet potatoes, and some other articles of produce, of which no account was taken. —*Woodsfield Monroe Co. paper.*

"THE SECRET OF GOOD AND BAD LUCK.—There are men, who supposing Providence to have an implacable spite against them, bemoan in the poverty of a wretched old age, the misfortunes of their lives. Luck forever ran against them and for others. One, with a good profession, lost his luck in the river, where he idled away his time a-fishing, when he should have been in his office. Another, with a good trade, perpetually burnt up his luck by his hot temper, which provoked his employers to leave him. Another, with a lucrative business, lost his luck by amazing diligence at every thing but his business. Another, who steadily followed his trade, as steadily followed his bottle. Another, who was honest and constant at his work, erred by his perpetual misjudgments,—he lacked discretion. Hundreds lose their luck by endorsing; by sanguine speculations; by trusting fraudulent men; and by dishonest gains. A man never has good luck who has a bad wife. I never knew an early rising, hard-working, prudent man, careful of his earnings, and strictly honest, who complained of bad luck. A good character, good habits, and iron industry, are impregnable to the assaults of all the ill-luck that fools ever dreamed of. But when I see a tatterdemalion, creeping out of a grocery late in the afternoon, with his hands stuck in his pockets, the rim of his hat turned up, and his crown knocked in, I know he has had bad luck —for the worst of all luck is to be a sluggard, a knave, or a tipler."—*H. W. Beecher.*

The Markets.

No later intelligence from England has arrived since our last. The news then received has given a decided impetus to the produce trade of this country, and caused an advance of prices in all our markets which is likely to continue till next harvest. We learn that extensive contracts are being made throughout this State, and the entire west, for flour, wheat, and Indian corn, to be delivered in time for spring navigation. Large quantities are also being stored at the lake and canal towns, for the same purpose. In southern Ohio, the river trade is affording an immediate outlet for flour and grain, at very satisfactory prices.

Shipment of Corn to England.—In our notices of the English markets, the article Indian corn, the rates are quoted by the quarter of 480 lbs., and the price in shillings. The following table has been published by some person familiar with the trade in this country, giving the expenses of shipment, and showing the net proceeds per bushel at the different rates sterling per quarter. It will be found convenient for reference:

Estimate of charges on Corn from Cleveland to England:

Freight to New York, ℔ bushel,	$0 30
Insurance and interest,	0 02
Charges at New York,	0 03
Freight to Liverpool 1s. 9d. sterling,	0 43
Insurance do	0 02½
Duty 1s. sterling, ℔ 480 lbs.	0 02½
Commissions, dock and town dues, &c.	0 10
	$0 93

The present rate of Exchange in England is about 6 ℔ cent. prem., and corn sold there by the quarter of 480 lbs. at 4 s.—would equal ℔ bu. $1 09, charges 93, net here 16 cents.

At 45s ℔ qr would equal	$1 23,	charges	93,	net here,	30
5 s " "	1 37,	"	93,	"	44
55s " "	1 51,	"	93,	"	58
60s " "	1 60,	"	93,	"	72
65s " "	1 79,	"	93,	"	86
7 s " "	1 23,	"	93,	"	1 00

CINCINNATI, *Feb.* 11.—Under the impulse given by the late foreign news, says the Gazette, the Produce and Provision markets have been quite active. Flour rose to a point above the views of any but a few operators, and so soon as these were satisfied, the article fell off a little. It has since been quite active, and is very firm at $4 62½ @ $4 95 for common brands to best city and country fancies. Provisions move up rapidly. The operations in Corn have been almost unprecedented in this market.

Prices.—Wheat 80 cts. per bushel; corn, 37½@40 cts., barley 40 cts., oats 25 cts. Clover seed 4,50 per bushel; timothy 2,00@2.50; flaxseed 80@85 cts. Butter, at wholesale, 10@12½ cts:; retail, in market, 16@25 cts. Cheese, in boxes, for shipment, 6½ cts.; eggs 12½@15 cts. per dozen. Pork, sales of mess at $12,50@$13; clear, $14 per bbl. Lard, No. 1, 7@7½cts. per lb. Beef cattle, average wt. over 600 lbs., 3,75@$4 per 100 lb net.

NEW YORK, *Feb.* 6.—Genesee and Ohio flour, $6 75 @ $6 87 to $7 per bbl. Wheat, $1 50@$1 60 per bu., Corn, $1 00 @$1 03 per bu.; Pork, new mess, $15 00; prime, $12 50; Beef, mess, $11 50, prime, $9 per bbl.

CLEVELAND, FEB. 9.—*Flour*—Aggregate sales since Steamer news of 4th ult., about 10,000 bbls. at $4 3-8 to $4½; mostly at latter price. Wheat—2?,000 bush. at 85 cts. Corn—13,000 bush, at 42 to 45 cts. Pork—No sales to report—worth $3¾ to $4, in the hog.—*Herald.*

COLUMBUS PRODUCE MARKET.

Corrected for the Ohio Cultivator, Feb. 13.

GRAIN.					
Wheat, ℔ bu.,	60	@			
Indian corn,	20	@			
Oats,	14	@	15		
PROVISIONS.					
Flour, retail, bbl,	4,00	@			
" 100 lbs	2,25	@			
" Buckwheat,	2,00	@			
Indian meal, bu.	25	@			
Hominy, quart,	3	@			
Beef, hd qr.		@			
" 100 lbs.,	3 50	@			
" fore qr.,	3,00	@			
Pork, mess, bbl.		@			
Hogs. ℔ 100 lbs,		@			
Hams, country lb,	5	@	6		
" city cured,	7	@			
Lard, lb., ret.,	6½	@			
" in kegs or bls.	6	@			
Butter, best rolls,	10	@	12½		
" common,	8	@	9		
" in kegs,	7	@			
Cheese,	6½	@			
Eggs, dozen,	8	@	9		
Maple sugar, lb.		@			
" molasses, gal.		@			
Honey comb, lb,	10	@	12½		
Honey, strained	12½	@	14		
POULTRY.					
Turkeys, each,	25	@	40		
Geese, "	18	@	20		
Ducks, "	10	@	12½		
Chickens, "	8	@	10		
SUNDRIES.					
Apples, bu.	37½	@	50		
" dried,	50	@			
Peaches, dried,	1,37	@	1,50		
Potatoes,	20	@	25		
" Sweet,	75	@	1,00		
White beans ℔ bu	75	@	1,00		
Hay, ton,	4,00	@	5,00		
Wood, hard c,rd	1,75	@	2,00		
Salt, bbl.,	1,87	@	2,00		
SEEDS.					
Clover, bu.,	3,25	@	3,50		
Timothy,	1,00	@	1,50		
Flax,	75	@			
ASHES					
Pot, 100 lbs ,	2.75	@	3,00		
Pearl,	3,00	@	3,50		
Wool, common,	18	@	20		
" half bl'd,	20	@	23		
" full bl'd.		@			

J. RIDGWAY & CO. OFFER FOR SALE THE FOLLOWING

Plows.

SUBSOIL Plows, of the Boston pattern.
Long's do six sizes, right and left handed.
Wisconsin and Smith plows.
Wood's do three sizes, right handed.
The above are made in the best manner, and of good stock.
Also, a large assortment of

STOVES,

Embracing the most approved for cooking, and the most elegant fancy patterns for heating.

HOLLOW-WARE,

A general assortment, at wholesale and retail.
Castings of Iron or Brass made to order; and finishing done in the best manner.
Columbus, Feb. 11, 1847.

A VALUABLE FARM FOR SALE.

THE undersigned, living on the road between Bedford and Bloomington, Indiana, about equal distance from each place, offers his farm for sale on advantageous terms. It is in a very high state of cultivation, consists of six hundred acres, of which two hundred is under fence, has upon it every building necessary for a western farmer, and apple and peach orchards of superior fruit. It could be conveniently divided into three farms.
Refer to A. W. MORRIS, of Indianopolis, or the subscriber by addressing a letter to Harrodsburg, Monroe county, Indiana.
JOHN McREA.
Feb. 15. 2t.

FARM AND FLOCK OF SHEEP FOR SALE.

THE Subscriber has in the state of Illinois, a plantation of 1000 acres of land—800 acres of which are under cultivation, and 200 acres in wood land; together with a flock of about 1000 fine wool sheep This farm is situated in Shelby county, one of the best counties in the state; is well watered with never failing springs, and the land is of fruitful quality. There are on the premises a good Dwelling House of 7 rooms, well lathed and plastered; a Barn of hewed logs, Smoke house, Black smith shop and other out houses, a small orchard of bearing fruit trees; also a stock of farming utensials, such as Wagons, Plows, Harrrows, &c.—with Horses, Cattle, Hogs, &c.
The above farm, with or without the stock, will be sold at a very great bargain, and a small part only of the purchase money required in hand, The balance may remain on Mortgage for a term of years at 6 per cent interest.
Any additional information will be given on letters being addressed post paid, to the subscriber at Massillon Ohio.
H. B. WELLMAN.
January 26, 1847.—3. t.

An Excellent Farm for Sale.

IN Perry township Franklin, county Ohio, 2 miles northwest of Dublin, on the east bank of the Scioto river; 15 miles from the capitol of the State of Ohio; containing 175 acres, of which there is about 75 under cultivation, and well fenced in several fields. Two orchards of bearing fruit trees, one sugar orchard, a good double log house, and a large new barn, and the land of the very best quality of warm and generous soil, well adapted to the cultivation of all kinds of grain, grass, &c. There are two valuable springs on the premises, one near the house equal to any in the country, and the location for a residence is as *pleasant* and *healthy* as any in the State.
The farm will be sold very low for cash, or part cash, and the residue on credit. If desired, it can be divided into two tracts, and sold separately. Title indisputable. For the price and terms, apply to the subscriber at his office in Columbus.
3t. S. BRUSH.

GRAND RIVER INSTITUTE.

THIS Institution is situated at Austinburg, Ashtabula county O. It is strictly a Manual Labor School, liberally endowed by benevolent individuals with the specific end in view of connecting regular exercise, daily, with thorough intellectual and moral training.
THE COURSE OF STUDY is adapted to two departments.
An English Department embracing a four years' course, where instruction is given not only in the common English branches, but in the higher departments of a thorough English Education, and
A Classical Department where a course of four years' study preparatory to an advanced standing in any of the Colleges at the East or West, may be pursued, with unusual facilities, it is beleived, of careful instruction, commodious rooms, accommodated for two occupants, &c.
EXPENSES.—*Tuition* at the rate of $15 a year, for all studies alike: Room-rent $5, a year. Incidentals $3, a year. Board $1, a week.
There are two terms in a year. One commencing the last Wednesday in ugust; The other on the first of March, each of about twenty weeks. There is a department for young Ladies with similar facilities, without charge for rooms.
Young Ladies can at present, receive instructions in music on the Piano, with use of an instrument, for the usual additional charge. Certificates of good moral character and the age of fourteen, conditions of admission to any of the Departments.